<u>AMENDMENTS TO THE CLAIMS</u>

Upon entry of the present amendment, the status of the claims will be as is shown below..
This listing of claims will replace all prior versions, and listings of claims in the application.

Listing of Claims:

1.   (Currently Amended) A method for transmitting a bit stream by using at least first and second antennas comprising:

dividing said bit stream at least into a first sub stream and a second sub stream;

dividing each of said sub streams into at least first and second segments;

dividing each of said ~~segment~~ <u>segments</u> into a plurality of fragments;

processing said plurality of fragments in one segment from said first sub stream;

processing said plurality of fragments in one segment from said second sub stream;

applying the processed fragments in said first sub stream to said first antenna; and

applying the processed fragments in said second sub stream to said second antenna.

2.   (Original) A method as claimed in claim 1, wherein said processing is a spatial multiplexing coding.

3.   (Original) A method as claimed in claim 1, wherein said processing is a space time block coding.

4.   (Original) A method as claimed in claim 1, wherein said processing is a space frequency block coding.

5.   (Currently Amended) A method as claimed in claim 2, wherein said processing comprises transforming ~~the~~ each fragment to a transmission signal to be carried in a first predetermined frequency.

6.   (Currently Amended) A method as claimed in claim 3, wherein said processing comprises transforming a portion of ~~the~~ each fragment to a transmission signal to be carried in a first predetermined frequency, and a remaining portion of the fragment to a transmission signal to be carried in said first predetermined frequency.

7.   (Currently Amended) A method as claimed in claim 4, wherein said processing comprises transforming ~~the~~ each fragment to a transmission signal to be carried in a first predetermined frequency, and the same fragment to a transmission signal to be carried in a second predetermined frequency.

8.   (Currently Amended) A method as claimed in claim 1, wherein said processing comprises:

    transforming ~~the~~ each fragment to a transmission signal;

    distributing the transmission signal; and

    IFFT processing the transmission signal.

9.   (Currently Amended) An apparatus for transmitting a bit stream by using at least first and second antennas comprising:

        means a bit stream divider for dividing said bit stream at least into a first sub stream and a second sub stream;

        means a sub stream divider for dividing each of said sub streams into at least first and second segments;

        means a segment divider for dividing each of said segment segments into a plurality of fragments; and

        means a processor for processing said plurality of fragments in one segment from said first sub stream[[;]], and means for processing said plurality of fragments in one segment from said second sub stream;

        means for applying wherein the processed fragments in said first sub stream are applied to said first antenna[[;]], and means for applying the processed fragments in said second sub stream are applied to said second antenna.

10.   (Currently Amended) An apparatus as claimed in claim 9, wherein said processing means carries out processor performs a spatial multiplexing coding.

11.   (Currently Amended) An apparatus as claimed in claim 9, wherein said processing means carries out processor performs a space time block coding.

12.   (Currently Amended) An apparatus as claimed in claim 9, wherein said processing means carries out processor performs a space frequency block coding.

13. (Currently Amended) An apparatus as claimed in claim 10, wherein said ~~processing means~~ processor comprises a transformer for transforming ~~the~~ each fragment to a transmission signal to be carried in a first predetermined frequency.

14. (Currently Amended) An apparatus as claimed in claim 11, wherein said ~~processing means~~ processor comprises a first transformer for transforming a portion of ~~the~~ each fragment to a transmission signal to be carried in a first predetermined frequency, and a second transformer for transforming a remaining portion of ~~the~~ each fragment to a transmission signal to be carried in said first predetermined frequency.

15. (Currently Amended) An apparatus as claimed in claim 12, wherein said ~~processing means~~ processor comprises a first transformer for transforming ~~the~~ each fragment to a transmission signal to be carried in a first predetermined frequency, and a second transformer for transforming the same fragment to a transmission signal to be carried in a second predetermined frequency.

16. (Currently Amended) An apparatus as claimed in claim 9, wherein said ~~processing means~~ processor comprises:

   ~~means~~ a transformer for transforming the fragment to transmission signal;

   ~~means~~ a distributer for distributing the transmission signal; and

   ~~means~~ an IFFT processor for IFFT processing the transmission signal.

17.   (Currently Amended) In a system for transmitting a bit stream from a first station to a second station using at least first and second transmitting antennas provided in the first station and at least first and second receiving antennas provided in the second station, with a coordinator providing at least one control signal having a poll frame for controlling the time duration for the transmission, said poll frame comprising:

a transmitter ID for specifying said first station;

an antenna index for specifying each of said first and second transmitting antennas in said first station; and

a frequency set ID for specifying a carrier frequency of a transmission signal from each of said first and second transmitting antennas in said first station.

18.   (Original) In a system for transmitting a bit stream from a first station to a second station using at least first and second transmitting antennas provided in the first station and at least first and second receiving antennas provided in the second station, said bit stream comprising:

a frequency set indicating at least one of a space time block coding mode or a space frequency block coding mode, and

a training sequence for training the transmission using at least two transmitting antennas and at least two receiving antennas.